

The CHEMPACK Project: A Strategic National Stockpile Initiative

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Learning Objectives

- Describe the CHEMPACK Project mission and components
- Identify signs and symptoms of nerve agent exposure
- Describe Virginia's CHEMPACK Project implementation plan and process
- Define CHEMPACK Project requirements and responsibilities
- Describe CHEMPACK Project equipment and supplies
- Describe other SNS initiatives



BACKGROUND

SNS Program Current Concept of Operations

Response Options



1. 12-Hour Push Packages
2. Vendor Managed Inventory (VMI) Packages
3. Storage & Rapid Deployment of Vaccines and Antitoxin
4. Buying Power/Surge Capacity
5. Technical Assistance

BACKGROUND

- SNS Program has a 12-hour response time
- Some state and local governments don't have any nerve agent antidote stocks
- Hospitals carry limited supplies of treatments for nerve agent exposures
- Nerve agent antidotes have variable shelf lives

CHEMPACK PROJECT

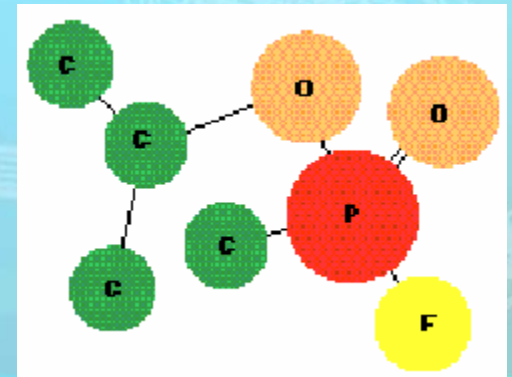
Mission

Implement a nationwide project for the “forward” placement of nerve agent antidotes. To provide state and local governments a sustainable resource that increases their capability to respond quickly to a nerve agent event.

* State participation in the CHEMPACK Project is voluntary

NERVE AGENTS

GA (Tabun)
GB (Sarin)
GD (Soman)
GF
VX



Molecular model of Sarin:
Courtesy of Offie E. Clark, US Army Medical Research
Institute of Chemical Defense, Aberdeen, Md.

NERVE AGENTS

- Attack the nervous system - interfere with chemicals that control nerves, muscles, glands
- Similar to insecticides (organophosphates)
- Exposure: Inhalation; direct contact; ingestion

NERVE AGENT SYMPTOMS

MILD	Headache small pupils red eyes runny nose	Chest tightness Tearing Sweating
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NERVE AGENT SYMPTOMS

MILD	Headache small pupils red eyes runny nose	Chest tightness Tearing Sweating
MODERATE		Difficulty breathing Drooling Vomiting Diarrhea Fatigue Muscle twitching Muscle weakness

NERVE AGENT SYMPTOMS

MILD	Headache Small pupils Red eyes Runny nose	Chest tightness Tearing Sweating
MODERATE	Difficulty breathing Drooling Vomiting Diarrhea Fatigue Muscle twitching Muscle weakness	
SEVERE	Urination Convulsions Cardiac irregularities Respiratory failure	

NERVE AGENT SYMPTOMS

S	Salivation
L	Lacrimation
U	Urination
D	Defecation
G	Gastrointestinal Upset
E	Emesis or pulmonary Edema

PHARMACEUTICALS

- Atropine – alleviates SLUDGE symptoms
- Pralidoxime – reactivates enzyme inhibited by nerve agent
- Diazepam – prevents or stops seizures that may occur

PHARMACEUTICALS



**Mark I
Nerve Agent Antidote
Kit (NAAK)
Auto-injectors**

**Diazepam
Convulsant Antidote Nerve
Agent (CANA)
Auto-Injector**



**Atropine, Pralidoxime, And
Diazepam Multi-dose Vials**



CHEMPACK

Equipment & Planning

CHEMPACK EQUIPMENT

- SNS Program supplies CHEMPACK materials, approved storage containers, and monitoring equipment
- Sites provide a secure, environmentally controlled storage area with phone connectivity



CHEMPACK STORAGE CONTAINER



SENSAPHONE 2050

STANDARD CONTAINERS

- Emergency Medical Service (EMS) Container:
 - Mostly auto-injectors
 - Some multi-dose vials for variable dosing with elderly or pediatric patients
- Hospital Container:
 - Mostly multi-dose vials for variable dosing & prolonged treatment
 - Some auto-injectors if no IV access can be established or for rapid use

EMS CONTAINER

EMS CHEMPACK Container for 1000 Patients

Item	REQ QTY per Container	Unit Pack	Cases per Container	Units in Container
Mark 1 auto-injector	2550	240	11	2640
Atropine Sulfate 0.4mg/ml 20ml	90	100	1	100
Pralidoxime 1gm inj 20ml	190	276	1	276
AtroPen® 0.5 mg	225	144	2	288
AtroPen® 1.0 mg	225	144	2	288
Diazepam 5mg/ml auto-injector	490	150	4	600
Diazepam 5mg/ml vial, 10ml	80	25	4	100
Sterile water for injection (SWFI) 20cc Vials	276	100	3	300
Sensaphone® 2050	1	1	1	1
SATCO B DEA Container	1	1	1	1

HOSPITAL CONTAINER

Hospital CHEMPACK Container for 1000 Patients

Item	REQ QTY per Container	Unit Pack	Cases per Container	Units in Container
Mark 1 auto-injector	390	240	2	480
Atropine Sulfate 0.4mg/ml 20ml	850	100	9	900
Pralidoxime 1gm inj 20ml	2730	276	10	2760
AtroPen® 0.5 mg	144	144	1	144
AtroPen® 1.0 mg	144	144	1	144
Diazepam 5mg/ml auto-injector	80	150	1	150
Diazepam 5mg/ml vial, 10ml	640	25	26	650
Sterile water for injection (SWFI) 20cc Vials	2760	100	28	2800
Sensaphone® 2050	1	1	1	1
SATCO B DEA Container	1	1	1	1

VIRGINIA CONTAINER PROVISIONS

- Virginia CHEMPACK funding:
 - \$2,729,672 of material
 - 44-50 containers
- SNS recommends 48 containers:
 - 30 EMS containers
 - 18 Hospital containers

VIRGINIA CONTAINER PROVISIONS

- Using regional population data, then, containers **could** be apportioned as follows:

	Area Pop. Totals (2000 Census)	% of State (rounded)	EMS Containers (% x 30)	Hospital Containers (% x 18)
Region 1	1,006,467	14%	4	3
Region 2	1,793,699	25%	8	5
Region 3	1,341,594	19%	6	3
Region 4	1,218,327	17%	5	3
Region 5	1,717,627	24%	7	4
State Total	7,077,714	100%	30	18

VIRGINIA CONTAINER PROVISIONS

- Potential Local Cache Repository Locations:
 - Hospitals (Trauma, Poison Control Centers, etc.)
 - Community locations:
 - EMS Buildings/Squads/Taskforce Areas
 - [Public Safety] Training Academies
 - Fire, Local Law Enforcement
 - State Police Divisions
 - Health Departments
- Multiple containers can be located at one site. Also, EMS containers may be placed at hospital locations.

VIRGINIA CONTAINER PROVISIONS

- Field Deployment:
 - Containers may be temporarily deployed for special events
 - Must be transported in environmentally controlled vehicle
 - Analog line available at destination for Sensaphone® to restore connection
 - CDC must be notified in advance and deploy technician to accompany unit(s)
 - State responsible for payment of all related costs including CDC staff support travel, etc.

EXERCISES AND TRAINING

- SNS CHEMPACK Program will provide two (2) Practice Containers & a one-time supply of training support materials
 - 1 EMS
 - 1 Hospital container
- Exercise plans to be developed
- Training needs assessment

SNS PROGRAM RESPONSIBILITIES

(1 of 2)

- Procure CHEMPACK Material
- Provide technical expertise to advise the sites in:
 - Preparing annex to augment existing BT/all-hazards Plan to incorporate CHEMPACK
 - Implementing environmental criteria for selected locations
 - Ensuring each storage situation meets DEA specifications (diazepam is a schedule IV controlled substance)
 - Ensuring quality control of the stored product

SNS PROGRAM RESPONSIBILITIES

(2 of 2)

- Maintain CHEMPACK materiel throughout the life cycle of the project:
 - Product surveillance:
 - Monitor environmental conditions of stored containers and pharmaceuticals and maintain documentation from the temperature monitoring devices for SLEP
 - Conduct product sampling
 - Replace stock, as required, to ensure it is in a ready-for-use state
 - Periodic QA/QC inspections
 - Monitor security, environment via Sensaphone®

STATE RESPONSIBILITIES

- Designate staff to work with SNS personnel on storage/QA
- Coordinate selection of container storage sites
- Develop EOP annex addressing CHEMPACK
- Request redirection of funds for back-fits (if desired)
- Agree to break the container seal and use packaged products if necessary to save lives
- Maintain list of Local Cache 24/7 primary/alternate POCs

CACHE STORAGE LOCATION REQUIREMENTS

(1 of 3)

- Designate individual/entity with DEA registrant number (license must cover the cache storage location) to sign for custody of the schedule IV controlled substances
- Responsible for storage & safeguard of the CHEMPACK container
- Must certify compliance with all federal, state and local regulatory guidelines for the storage of schedule IV controlled substances and other pharmaceuticals

CACHE STORAGE LOCATION REQUIREMENTS

(2 of 3)

- Maintain external security enhancements:
 - 24 hour surveillance by motion detector, camera, a door contact switch if applicable
 - Double lock standard
 - Controlled entry to cache storage area
- Maintain key control
- Provide minimum 50 sq. ft. floor space per unit
- Maintain climate-controlled environment of 59° to 86° F

CACHE STORAGE LOCATION REQUIREMENTS

(3 of 3)

- 72" aisles and 45" doorways to maneuver containers:
 - Accessibility for container dimensions 64.5" H X 43" W X 60.7" L
- Analog phone lines (CHEMPACK use only) for the Sensaphone ®
- 110v a/c power outlet and a back up power source (emergency generator or UPS)
- Personnel to respond to a Sensaphone ® alarm
 - Intrusion 15 Minutes
 - Temperature 1 hour
 - Power 1 Hour

WHAT IT TAKES TO GET CHEMPACK ON THE GROUND

(1 of 2)

- Approve and sign the MOA
- Develop State CHEMPACK Annex
- Determine number and type of containers to be stored at each potential cache location
- Complete the survey checklist to validate suitability of each storage location
- Cache locations identified, surveyed and deficiencies corrected
- Identify cache location POCs (primary, alternate)

WHAT IT TAKES TO GET CHEMPACK ON THE GROUND

(2 of 2)

- Site retrofits completed (phone lines, intrusion alarm, backup power, etc.)
- Identify Drug Enforcement Agency (DEA) Registrant to sign for pharmaceuticals for each cache location
- Access, key/card control established
- Cache locations surveyed and deficiencies corrected
- Provisions added to hospital, EMS, MCI and other applicable plans

Other SNS and EP&R Initiatives



Other SNS and EP&R Initiatives

- **Generic Dispensing Site Form(s)**
- **Emergency Responder Prophylaxis Guidance**
- **Head of Household Guidance**
- **Dispensing Site Field/Start-Up Kit**
- **RSS, Dispensing Points of Contact Spreadsheets**
- **VMI Contents**

Other SNS and EP&R Initiatives

Generic Dispensing Site Form(s)

- Dispensing Site Medical History and Consent Form
- Post-Event Smallpox Vaccination Screening and Consent Signature Form
- Smallpox Vaccination Patient Record of Immunization
- Smallpox Vaccination Patient Medical History and Consent Form, Version 5, 11/15/03 (5 Pages):
<http://www.bt.cdc.gov/agent/smallpox/vaccination/infopacket.asp>
- Pre-event Screening Worksheet for Smallpox Vaccine Version 3, 11/15/03 (7 pages):
<http://www.bt.cdc.gov/agent/smallpox/vaccination/infopacket.asp>

Other SNS and EP&R Initiatives

- Emergency Responder Prophylaxis Guidance
 - Arrangements for the issuance of emergency medications to the responder community in advance of the general public
 - Medications will be provided to Emergency Responders and their Household Members only if there is a health risk due to exposure
 - Refer to DRAFT guidance document in development

Other SNS and EP&R Initiatives

- Head of Household Guidance
 - Creates standard for dispensing of medications to a “Head of Household,” “Special Needs” individuals or “Unaccompanied Minors”
 - Evaluating waiver at the discretion of the Health Commissioner or designated representative
 - Informed consent required
 - Refer to DRAFT Head of Household Dispensing Guidance

Other SNS and EP&R Initiatives

- Dispensing Site Field/Start-Up Kit:
 - Draft inventory created, basic kit and HD equipment/consumables.
 - Pricing
 - Storage, delivery options
- RSS, Dispensing Points of Contact Spreadsheets
- VMI Contents now available

Other SNS and EP&R Initiatives

Hurricane Plan update on web site:

- Incorporated lessons learned from Hurricane Isabel
- Added new Attachment 1.1.5, checklist for Office of Drinking Water
- Added new Attachment 1.1.6, checklist for VDH Liaison at VEOC
- Added new Tab 4, Example Public Information Advisories, Fact Sheets And News Releases
 - English and Spanish

REFERENCES:

1. The CHEMPACK Workshop: April 28-29, 2004
2. Sidell, Frederick R. (1995). Management of Chemical Warfare Agent Casualties: A Handbook for Emergency Medical Services. Bel Air, MD: HB Publishing.
3. Sidell, Frederick R., et al (2002). Jane's Chem-Bio Handbook. Alexandria, VA: Jane's Information Group.
4. Medical Management of Chemical Casualties Handbook, Third ed. (USAMRICD)



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QUESTIONS?